

## PULSE COUPLING APPARATUS, SYSTEMS, AND METHODS

### Abstract of the Disclosure

Apparatus and systems, as well as methods for using them, may include

5 launching a pulse into an input port of a quarter-wave directional coupler having an  
thru port and an isolated port, and receiving a leading edge of the pulse as a voltage  
spike at an output port of the coupler. A switch may be activated to couple a pulse  
source to the input port. The impedance of the coupler may be selected to match  
the resistance of the switch added to the impedance of a charge line included in the

10 pulse source.

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